

WHAT IS CLAIMED IS:

1. A method for saw-tooth removal of de-interlaced images using expanding window search for obtaining a target by image signals of three fields comprising steps of:

5 processing a first judgment procedure for determining a targeted image having a possible edge according to said image signals of said three fields;

 processing an expanding window search according to said targeted image having said possible edge;

10 processing a second judgment procedure according to the result of said expanding window search to distinguish a true edge from said targeted image having said possible edge in order to obtain a target.

2. The method according to Claim 1 wherein said first judgment procedure includes a determination criterion of $(|C_{-1}-D_1| \geq \zeta_1) \ \& \ (|D_{-1}-C_1| \geq \zeta_1) \ \& \ (|C-D| \geq \zeta_1) \ \& \ (|C-D_{-1}| \geq \zeta_1) \ \& \ (|C-D_1| \geq \zeta_1) \ \& \ (|D-C_{-1}| \geq \zeta_1) \ \& \ (|D-C_1| \geq \zeta_1)$, where the C, C_1, D, D_1 are the adjacent points of said target and ζ_1 is a threshold value.

3. The method according to Claim 1 wherein a search range is set on said expanding window search, and according to said search range, a plurality of expanding windows are selected to determine said targeted images of said possible edge is able to have a right edge.

4. The method according to Claim 3 wherein according to said search range, said expanding windows are selected to determine said targeted images of said possible edge is able to have a left edge.

25 5. The method according to Claim 4 wherein said second procedure comprises steps of :

processing a right-edge mask product according to the maximal value of a right edge determination series; and

processing a left-edge mask product according to the maximal value of a left edge determination series.

- 5 6. The method according to Claim 5 wherein said right edge determination series is obtained according to said expanding windows.
7. The method according to Claim 5 wherein said left edge determination series is obtained according to said expanding windows.